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09/613,418	07/10/2000	Michael G. Mayer	85773-227	9352

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EXAMINER

SEFCHECK, GREGORY B

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/613,418

Applicant(s)

MAYER, MICHAEL G.

Examiner

Gregory B Sefcheck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

- Applicant's Amendment filed 4/7/2004 is acknowledged.
- The Replacement Drawings filed 4/7/2004 are approved.
- Claims 1-16 remain pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Wang (US005563891A).

- In regards to Claim 9,

Wang discloses a de-synchronizer that receives a data signal input (Fig. 6; claim 9 - de-synchronizer comprising input).

Referring to Fig. 6, Wang shows a data pump/demux that recovers a clock signal of the higher rate signal (Fig. 6, Col. 10, lines 28-34; claim 9 – clock recovery of the line rate) and reverse maps the data stream by utilizing the recovered clock and a frame timing signal of pulses indicative of the lower rate signal (Col. 10, lines 35-55; claim 9 – reverse mapping extracts data stream based on the line rate and data indicative of the lower rate).

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The data stream is written to an elastic buffer based on the extracted clock and frame timing signal, read from the elastic buffer at the original unsynchronized (arbitrary) rate and fed to a line interface (claim 9 – output; Fig. 6; Col. 10-11, lines 28-9; claim 9 – transmitter coupled to reverse mapper for transmitting the extracted data at the original arbitrary rate; claim 9 – output).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Serack (US005111485A).

- In regards to Claim 1, 7, 8, 10 and 16,

Wang discloses a synchronizer and method thereof comprising an input for receiving a digital signal and a data recovery unit (element 110 and input signal) that recovers a first clock signal from the received signal indicative of the signal's transmission rate (Fig. 6; Col. 8, line 33; Fig. 6, element 110; claim 1/10/16 - synchronizer and method thereof comprising input of arbitrary rate and a data/clock recovery unit).

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Wang shows that the recovered first clock signal is used to generate a second clock signal indicative of an allowable transmission rate of the network (Col. 8, lines 43-57; Col. 10, lines 15-19; Fig. 6, elements 115, 130, 135, 140, 145 and 155; claim 1/10/16 - clock generator coupled to clock recovery for generating second clock indicative of network line transmission rate).

Wang further discloses a mapping unit (elements 120 and 150) that receives the second clock signal and maps the data into a frame structure at the network transmission rate and outputs the signal to the network (Col. 1, lines 44-45; claim 1/10/16 – mapping the stream into a frame output at the rate of the second clock).

Wang does not explicitly show applying a frequency multiplication to the first clock signal to generate the second clock signal.

Serack discloses a circuit and method for synchronizing data that is comparable to the synchronizer and method of Wang. Serack discloses generating a second clock signal by applying a frequency multiplication of a controlled ratio to the first clock signal (Fig. 2; Col. 6-7, lines 58-10; claim 1/10/16 – second clock generated by frequency multiplication of the first clock signal; claim 7 - clock generator has multiplier; claim 8 - multiplier multiplies CLK1 and control signal to produce CLK2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the second clock signal generation in the method and synchronizer of Wang by applying frequency multiplication to the recovered first

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clock signal, as shown by Serack. This modification provides a correlation between the first and second clock signals so that the integrity of the data can be maintained at the different clock rates.

- In regards to Claims 2-5 and 11-14,

Wang v. Serack discloses a synchronizer and method that covers all limitations of the parent claims.

Wang discloses applicability of the synchronizer and method in communications networks such as data networks, which encompasses asynchronous optical and electrical networks (Col. 1, lines 18-20; claim 2/11 – network is optical; claim 3/12 - async optical; claim 4/13 - electrical; claim 5/14 - async electrical).

- In regards to Claim 6 and 15,

Wang v. Serack discloses a synchronizer and method that covers all limitations of the parent claims.

Wang shows a synchronizer and method thereof in which data within a frame are put into payload and stuffing bit positions of an appropriate time-slot assignment (Col. 10, lines 22-25; claim 6/15 - distribute data through time slots and stuff bits).

Response to Arguments

5. Applicant's arguments with respect to claims 1-8 and 10-16 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments filed 4/7/2004 with respect to claim 9 have been fully considered but they are not persuasive.

- In the Remarks on pg. 20 of the Reply, the Applicant contends that Wang does not teach or suggest a desynchronizer having a reverse mapping unit that is operative to "extract data indicative of an arbitrary transmission rate from the received data signal."
- The Examiner respectfully disagrees. On lines 35-55 of column 10, Wang discloses that the frame timing signal has pulses corresponding to the stuffing bit positions and gaps corresponding to control bit positions of the higher rate signal, thereby indicating whether the stuffing bits are data-carrying or null.
- It is the Examiner's opinion that the frame timing signal extracted by the reverse mapper (demux) of the desynchronizer of Wang is indicative of the lower rate signal.

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Van Der Putten et al. (US006754235B2) discloses a transmitter and receiver for a very high speed digital subscriber line
- Kato et al. (US006711228B1) discloses a multi-rate clock generator and multi-rate digital data reproducing device
- Bechade et al. (US006415008B1) discloses a digital signal multiplexer
- Bowen et al. (US006385267B1) discloses a system and method for locking disparate video formats
- Ha et al. (US005933432A) discloses a mapping apparatus for use in a synchronous multiplexer
- Narasimha et al. (US005828670A) discloses a distribution of synchronization in a synchronous optical environment

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is

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filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B Sefcheck whose telephone number is 703-305-0633. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GBS
7-28-2004



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